

Campo Community Water and Sewer Rate Analysis

April 2005

Prepared By: Department of Public Works
County of San Diego

Purpose

On September 22, 2004 (3), the Board of Supervisors adopted Campo Hills water and sewer rates. As part of that action, the Board adopted the service area map, zone (A) Campo Community Water and Sewer System, and zone (B) Campo Hills project. The Board directed the County Administrative Officer to return with recommendations for adjustments in water and sewer rates for the Campo Community Water and Sewer System to achieve full cost recovery from existing customers.

Existing County Operated Water and Sewer System

The existing Campo water and sewer facilities were built by the U.S. Army in 1941 to serve Camp Lockett used by the Army in World War II for cavalry training and border defense. In 1943 Camp Mitchell Convalescent Hospital was built.

In June 1950, the Federal government transferred real property assets to the County of San Diego from what was formerly known as Camp Lockett. Included with this transfer was a public water supply system, sewage treatment and disposal facility. The County has operated both systems since that time, primarily to serve Rancho Del Campo Juvenile Facility and support County operations in the Campo area that include Parks and Recreation, Public Works, Sheriff and General Services.

The Federal government sold portions of Camp Lockett to individual owners. Therefore, there are approximately 45 private customers who also depend on these water and sewer services for domestic and commercial uses. The sewage treatment plant will also serve 222 residences in the newly developed community of Campo Hills.

Community Water System

The Campo Community water system is a physically separate system from the Campo Hills water system with the exception for an interconnecting pipeline that can be opened in case of an emergency. Each water system has its own budget and separate accounts. The Campo Community water system is designated as Zone A and the Campo Hills water system as Zone B.

Physical Description

Wells

The water system utilizes four groundwater wells as its source of supply. Well #1 produces approximately 125 gallons-per-minute, has a 90-foot casing and a 50-foot annular seal. Well #2 produces approximately 100 gallons-per-minute, is 110 feet deep, with an 11-foot seal and 12-foot casing. Well #3 (inactive) is drilled to 107 feet and sealed with cement to 50 feet. Well #4 is low-yield, approximately 25 gallons-per-minute, has a casing of 130 feet and was installed to primarily serve the Probation Camp. Wells 1 & 2 are used intermittently to produce an average of 35 gallons per minute, which is pumped to the storage tanks and the distribution system.

Treatment

No treatment system has been installed at this time. However, recent test results (January 2005) revealed presence of low levels of uranium in water above the EPA allowable contaminant levels for wells 1 and 3. The uranium levels can be reduced to acceptable levels through treatment, which will cost approximately \$56,000 per year on a ten-year lease/operation program with a local contractor.

Storage Reservoir

Two steel bolted plate reservoirs (55 feet in diameter and 24 feet in height) provide storage capacity of approximately 726,000 gallons. Each tank is equipped with telemetry which controls pump operation for level control. In 2004, the second reservoir was constructed and the first was relined.

Distribution System

The majority of the distribution system is looped, although the western portion has dead ends and a line extending to the wastewater treatment plant. The distribution system consists of transite-steel pipe, 40,000 feet of 6-inch, 5,000 feet of 8-inch and 3,000 feet of 10-inch, along with 22,000 feet of 2-inch PVC, for a total system length of approximately 70,000 feet or 13.25 miles. There are 110 potable water connections, 66 un-metered connections at the County-operated Probation Facility, and 44 various metered connections to private customers throughout the community. There are 50 fire hydrants.

Regulatory Agency

The County of San Diego Department of Environmental Health (DEH) regulates the Campo Community Water System because the service connections are below the threshold of 200 connections for California Department of Health Services (CDHS) regulation.

Staffing

Campo water and wastewater share one full staff per year, plus support staff for line and plant maintenance.

Annual Operating Cost

The annual operating cost for Fiscal Year 2004-05 is projected to be \$159,000, not including any funding for operation or replacement reserves.

Current Flow Distribution

Campo Community customers currently utilize 34% of water production. The remaining 66% is used at County facilities. Average water production is approximately 48,000 gallons per day and is distributed as follows:

	Gallons Per Day	% County facilities	% Total
Campo Community customers	16,320		34%
General Services	2,540	8	66%
Parks & Recreation	630	2	
Sheriff	630	2	
Public Works	950	3	
Probation	26,930	85	
Total	48,000		100%

Current Rate Structure

Campo Community Customers

In November 1994, the Department of Public Works notified the Campo residences of a scheduled rate increase for water and sewer service provided by the County of San Diego. The first rate adjustment occurred in March 1995 and the last adjustment was made in March 1999.

Monthly Water Rate Schedule
All rates per 100 cubic feet of consumption

	1995	1996	1997	1998	1999
Step 1	0.86	1.07	1.28	1.49	1.70
Step 2	1.03	1.41	1.79	2.17	2.55

Step 1: Cost of water consumption under 2,000 cubic feet per month.

Step 2: Cost of water consumption exceeding 2,000 cubic feet per month.

The fiscal year 2004-05 average monthly billing rates for Campo Community customers are shown in Appendix B. These rates produced the following monthly averages:

Fiscal Year 2004-05 Average Billing Rates

Residential	\$ 26.55 per month
Multi-Family	\$187.67 per month
Commercial	\$198.28 per month

Total fiscal year 2004-05 Annual Revenue from Campo Community customers was \$26,240, or approximately 13.8% of operating cost (see Exhibit "C" for more details).

County Facilities & Subsidy

In fiscal year 2004-05, the Department of Public Works received \$132,900 in General Purpose Revenue to operate the Campo Community Water System. This revenue provided \$104,960 for County facilities water cost plus \$27,800 in subsidy for Campo Community customers and did not include funding for operational or replacement reserves. General Purpose Revenue was approximately 89% of the annual operating costs.

The following is a distribution of these cost to County facilities based on number of EDUs assigned to each facility for wastewater service. Only the Public Works facility is currently metered. Additional meters on County facilities would facilitate the distribution of costs.

<u>County Facilities</u>	<u>% Usage</u>	<u>Amount</u>
General Services	8%	\$ 8,400
Parks and Recreation	2%	\$ 2,100
Probation	85%	\$ 89,200
Public Works	3%	\$ 3,160
Sheriff	<u>2%</u>	<u>\$ 2,100</u>
TOTAL	100%	\$ 104,960

Alternate Rate Analysis

Operations Budget

For the purpose of the water system rate structure analysis shown on Exhibit C, it is assumed that the annual operation cost will remain similar to Fiscal Year 2004-05, with the exception if \$10,000 per year added for major maintenance and \$56,000 per year for lease/operation of uranium removal equipment. The total operation budget for fiscal year 2005-06 is \$227,700.

Reserve Requirements

In the past, no funds have been set aside for replacement or operational reserves. The County, through the Department of General Services, has funded facility replacement and major maintenance on an as-needed basis. The County, through the Department of Public Works, has funded annual operation less revenue from the Campo Community customers. No provisions were made for an operational reserve.

The provision of both Capital Improvement and Operational reserves are necessary if the County desires to move to full cost recovery from the Campo Community customers with less dependence on the County General Purpose Revenue. The provision of adequate reserves will ensure independent fiscal stability of the Community Water System.

Capital Improvement Reserve

A capital improvement reserve is defined as money set-aside over a period of time to replace or otherwise upgrade existing capital facilities. Capital improvement reserves are commonly established by annually transferring an amount equal to annual depreciation of utility assets, or a rolling five-year average of capital needs into the reserve. California Department of Health Services generally looks for a capital improvement reserve based on a 20-year life cycle.

The anticipated capital improvement schedule for the Campo Community Water System is show on Appendix A. This schedule reflects the fact that the existing distributions lines are old and will likely need to be replaced during the next ten years. Also well 2 & 3 will need to be replaced in about 10 years. However, the storage tanks should last 30 years with proper maintenance. This schedule should be reviewed and updated at least every five years.

An annual contribution of \$83,500 is required to fully fund the capital improvement reserve in 2005 dollars. The Campo Community Water Rate Model (Appendix C) depicts full funding of this reserve in FY 2006-07 with a 3% annual increase for construction cost inflation. The low level of reserves in the early years may require one-time funding sources for major capital improvements, should unanticipated failures occur.

Operational Reserve

Establishment of this reserve would provide ready funds for payment of operating expenses during certain times in the fiscal year when collections of water service charges lag financial obligations paid during that period. For instance, 21 % is generally considered to be the lead-lag for bi-monthly billing and represents 77 days of cash flow based on a grace period given to customers upon receipt of the bill of 15 days. In addition, the Operational Reserve may be used to fund unanticipated expenses. Operational Reserves are commonly set with a minimum funding goal of 50% of the annual operation cost.

The California Department of Health Services (CDHS) does not have any specific requirement for operational reserves. CDHS recently approved the Technical Managerial study for the Campo Hills project. The developer was required to deposit \$160,000 cash in order to establish an initial operational reserve.

The Campo Hills budget for operational reserves for Fiscal Year 2004-05 was 19.2%. This Operational Reserve dollar amount continued to increase to 50% of the total fund balance by Fiscal Year 2008-09.

The Campo Community Water System's financing model (Appendix C) includes a \$15,000 annual contribution to the operational reserve beginning in fiscal year 2006-07. This funding level would produce a reserve balance of \$60,000 by fiscal year 2009-10 if no withdrawals are made.

Proposed Rate Structure

Campo Community Customers - Full Cost Recovery

The Campo Community Water System's financial model (Appendix C) depicts full cost recovery from all users (County and Campo Community) based on consumption (metered and assumed) by fiscal year 2009-10. Staged implementation, at a rate of approximately 42% per year, will help Campo Community customers time to adjust to the higher utility costs. Continuation of a two-step rate structure will encourage water conservation. The addition of a monthly base charge ensures that all property owners pay their fair share for having a water system available to use even if they only consume low amounts of water or their property is vacant for portions of the year.

Under this rate scenario, monthly water bills for the 45 residential Campo Community customers would increase at a rate of approximately 42% per year and would be comparable to Campo Hills residents of \$150 per month by 2010. These rates are somewhat higher than other similar water districts in San Diego County as shown in Appendix E. This difference is primarily attributed to the need for uranium treatment and establishment of adequate capital improvement reserves.

Proposed Water Rate Schedule (per 100 cubic feet of consumption)

Bill Rate	Current	2006	2007	2008	2009	2010
Step 1	\$1.70	\$2.15	\$2.70	\$3.40	\$4.30	\$5.50
Step 2	\$2.55	3.20	\$4.05	\$5.10	\$6.45	\$8.00
Monthly Base Charge	\$0.00	\$5.00	\$10.00	\$20.00	\$35.00	\$65.00

Step 1: Cost of water consumption under 2,000 cubic feet per month

Step 2: Cost of water consumption exceeding 2,000 cubic feet per month

Average Month Bills

	Current	2006	2007	2008	2009	2010
Residential Property (20 customers)	\$26.55	\$38.52	\$52.17	\$73.11	\$102.17	\$150.27
Multi-Family Units (21 customers)	\$26.79	\$34.39	\$43.99	\$56.45	\$72.78	\$93.81
Commercial Property (23 customers)	\$47.52	\$64.80	\$85.47	\$115.04	\$155.19	\$215.82

County Facilities and Subsidy

As stated above, the Campo Community Water System Financial Model (Appendix C) depicts an alternative where water rates for Campo Community customers are adjusted over a five-year period to full cost recovery. General Purpose Revenue will continue to subsidize the Campo Community customers during this interim period and pay the balance of the revenue needed to fund the Campo Community Water System. The subsidy will end in FY 2010-11 once the Campo Community customers are paying at the full cost recovery rate. This approach recognizes the fact that the primary purpose of the Campo Community Water System is to serve County facilities.

County Water Costs – General Purpose Revenue

Fiscal Year	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
Campo Community Customer Subsidy	\$27,800	\$46,400	\$72,000	\$59,800	\$41,400	\$16,400
County Facilities	\$104,960	\$150,300	\$220,200	\$223,600	\$227,100	\$230,700
Total Cost	\$232,760	\$196,900	\$202,200	\$283,400	\$286,500	\$247,100

County facilities water expenses are currently funded by General Purpose Revenue through the Department of Public Works' budget. An alternative would be to program these expenditures in the operating department's budget based on estimated water consumption as shown below for fiscal year 2005-06 costs. Any change in consumption by one County user would necessary shift cost to the other users as the

County is committed to provide the balance of the revenue to adequately fund the water system.

<u>County Facilities</u>	<u>% Usage</u>	<u>Amount</u>
General Services	8%	\$ 12,000
Parks & Recreation	2%	\$ 3,000
Probation	85%	\$127,800
Public Works	3%	\$ 4,500
Sheriff	2%	\$ 3,000
Total	100%	\$150,300

Wastewater System

The Campo Community and the Campo Hills development share a common sewer system.

Physical Description

Location

The treatment plant is located at 31035 Forest Gate Road, Campo. Collection system serves both Campo Community and Campo Hills Development.

Treatment

The treatment and disposal process at the treatment facility consists of: grease interceptor, Imhoff tank, trickling filter, (2) secondary clarifiers, anoxic selector tank, four percolation beds and 2 sludge drying beds. The facility permitted effluent discharge is 114,000 gallons per day. Constructed in the 1940's, the facility is in fair condition, as it was recently upgraded as part of the Campo Hills development project.

Collection System

The sewer system consists of approximately 22,000 feet of 8-inch and 4,000 feet of 4-inch clay sewer for an approximate total of 26,000 feet or 4.9 miles. In 1996, approximately 1,900 feet of 8-inch sewer throughout the town was slip lined to reduce infiltration.

Current Flow

Average daily flow to the facility is 25,000 to 30,000 gallons per day.

Regulatory Agency:

California Regional Water Quality Control Board
CRWQCB Order No. 87-108

Staffing:

State certified Grade III wastewater treatment plant operator staffs both the facility and the community water system 8 hours per day, Monday through Friday. A total of one staff year is allocated to the wastewater system.

Annual Operating Costs

The annual operating cost for Fiscal Year 2004-05 is projected to be \$180,000. This cost does not include any funding for operation or replacement reserves.

Current Rate Structure

Campo Community Customers

In November 1994, The Department of Public Works notified Campo residents of a scheduled rate increase for water and sewer service provided by the County of San Diego. The first rate adjustment occurred in March 1995 and the last adjustment was made in March 1999.

Monthly Sewer Rate Schedule

	1995	1996	1997	1998	1999
Tier 1	7.20	9.40	11.60	13.80	16.00
Tier 2	13.60	17.20	20.80	24.40	28.00

Tier 1: All customers with ¾" to 1" water meters

Tier 2: All customers with 1½" to 2" water meters

Number of EDUs used by Campo Community customers = 58

Total fiscal year 2004-05 Annual Revenue – Campo Community customers - \$8,880 or 6% of operating cost (Refer to Exhibit "B" for more details)

County Facilities and Subsidy

In fiscal year 2004-05, the Department of Public Works received \$153,000 in General Purpose Revenue to operate the Campo Community Wastewater System. This revenue provided \$123,600 for County facilities sewer cost plus \$27,200 subsidy for Campo Community customers and did not include any funding for operational or replacement reserves. The General Purpose Revenue was approximately 94% of the annual operating costs.

At total of 76 EDUs¹ are assigned to County facilities. This figure is based on the following estimate of wastewater generation by facility.

Department	TYPE OF FACILITY	EDUs
General Services	Service Center plus 5 residential units	6.2
Parks and Recreation	Service Center	1.2
Probation Department	Juvenile Camp -200 beds plus 18 residential units	68
Public Works	Road Station plus 1 residential unit	1.2
Sheriff	Sub-Station	1.2

¹ "Equivalent Dwelling Unit (EDU)" is the unit of measure 240 gallons per day that is based on the flow of characteristic of an average single-family residence in terms of sewage quantity and constituent quality.

The following table represents the County departments share of the fiscal year 2004-05 General Purpose Revenue.

COUNTY DEPARTMENT	NUMBER OF EDUs	% OF TOTAL 76 EDUs	AMOUNT
Probation	68.0	71%	\$105,100
General Services	6.2	8.1%	\$9,900
Parks & Recreation	1.2	1.6%	\$2,500
Public Works	1.2	1.6%	\$2,500
Sheriff	1.2	1.6%	\$2,500

Proposed Rate Structure

On September 22, 2004 (3), the Board adopted water service and water/sewer fee ordinances for Campo Hills Development. The Sewer Rate Financing Model (Appendix D) concluded that a monthly sewer fee of \$55 per equivalent dwelling unit (EDU) would be necessary to adequately fund wastewater treatment plant and collection system operations for both the new Campo Hills customers and existing Campo Community customers. This rate structure provides for operational cost plus contributions to both an Operation Reserve and a Capital Improvement Reserve.

The Sewer Rate Financing Model depicts full cost recovery from Campo Community customers by Fiscal Year 2009-10. Campo Hills customers will pay a full cost recovery rate as they connect to the system. Staged implementation, at a rate of approximately 28 percent per year, will help Campo Community customers time to adjust to the higher utility costs.

Proposed Monthly Sewer Rate Schedule For Campo Community Customers

Bill Rate	Current	2006	2007	2008	2009	2010
\$/EDU	\$16.00	\$20.50	\$26.20	\$33.50	\$43.00	\$55.00
Average Monthly Billing						
Residential Property (20 customers)	\$16.00	\$20.50	\$26.20	\$33.50	\$43.00	\$55.00
Multi-Family Units (21 customers)	\$4.00	\$16.01	\$20.46	\$26.16	\$33.58	\$42.95
Commercial Property (23 customers)	\$18.18	\$24.60	\$31.44	\$40.20	\$51.60	\$66.00

In order to provide for a staged implementation of full cost recovery from Campo Community customers, County General Purpose Revenue will continue to subsidize Campo Community customers during this interim period and will pay the balance of the revenue needed to fund the Campo Community Water System. The subsidy will end in FY 2009-10 once the Campo Community customers are paying at the full cost recovery rate. This approach recognizes that the primary purpose of the Campo Community Water System is to serve County facilities.

County Sewer Costs – General Purpose Revenue

Fiscal Year	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
Campo Community Customer Subsidy	\$27,200	\$24,400	\$20,400	\$15,200	\$8,500	\$0
County Facilities	\$123,600	\$116,000	\$63,000	\$65,300	\$71,100	\$77,100
Total Cost	\$150,800	\$142,400	\$83,400	\$80,500	\$79,700	\$78,100

General Purpose Revenue currently funds county facility sewer expenses through the Department of Public Works' budget. An alternative would be to program these expenditures in the operating department's budget based on estimated water consumption as shown below for fiscal year 2005-06 costs. Any change in consumption by one County user would necessary shift cost to the other users as the County is committed to provide the balance of the revenue to adequately fund the water system.

<u>County Facilities</u>	<u>% Usage</u>	<u>Amount</u>
General Services	8%	\$ 9,300
Parks & Recreation	2%	\$ 2,300
Probation	85%	\$ 98,600
Public Works	3%	\$ 3,500
Sheriff	<u>2%</u>	<u>\$ 2,300</u>
Total	100%	\$116,000